PROPORTION AND FACTORS PREDICTED SELF- MEDICATION IN ELDERLY POPULATION IN YOGYAKARTA

By Dyah Aryani Perwitasari

WORD COUNT 2722
TIME SUBMITTED 24-MAY-2017 01:59PM
PAPER ID 29547670

KATA PENGANTAR

Dengan penuh rasa syukur kehadirat Allah SWT, Media Farmasi Vol. 12 No. 1 Tahun 2015 telah terbit.

Pada edisi ini, Jurnal Media Farmasi menyajikan 11 artikel yang kesemuanya merupakan hasil penelitian. Enam artikel dari luar Fakultas Farmasi UAD membahas, (1) Formulasi dan evaluasi masker wajah *peel-off* yang mengandung kuersetin (2) Pengaruh polivinil pirolidon (PVP) dalam absorpsi piroksikam (3) Uji perbandingan aktivitas antijamur *Pityrosporum ovale* dari kombinasi ekstrak etanol buah belimbing wuluh dan daun sirih (4) Aktivitas inhibisi α-amilase ekstrak karagenan dan senyawa polifenol (5) Uji antihipertensi infus kombinasi biji dan rambut jagung (6) Layanan pesan singkat pengingat meningkatkan kepatuhan minum obat. Lima artikel dari peneliti Fakultas Farmasi UAD yang membahas tentang : (1) Formulasi emulgel minyak biji bunga matahari (2) Aktivitas antifungi fraksi etil asetat ekstrak daun pacar kuku (3) Karakteristik genetik *Actinomycetes* (4) Simvastatin sebagai hepatoprotektor (5) Faktor yang diprediksi berpengaruh terhadap pengobatan sendiri.

Harapan kami, jurnal ini dapat bermanfaat bagi pembaca atau menjadi referensi peneliti lain. Kritik dan saran membangun, senantiasa kami terima dengan tangan terbuka.

Dewan Editor

PROPORTION AND FACTORS PREDICTED SELF-MEDICATION IN ELDERLY POPULATION IN YOGYAKARTA

Andriana Sari, Woro Supadmi, Dyah Aryani Perwitasari

Faculty of Pharmacy Ahmad Dahlan University Yogyakarta
Email : andrie_sari@yahoo.com

ABSTRACT

Pharmacists should give more attention in giving pharmaceutical care services to the elderly patients, because the decrease of physiological function could result more drug related problems. Currently, elderly patients are interesting to do self-medication before visiting the physician. Thus, our study was aimed to understand the proportion of elderly patients who are interesting to do the self-medication and to explore the factors predicted self-medication behavior. This study was carried out by cross-sectional design. Data was collected by doing interview and giving questionnaire to the 544 elderly patients in the pharmacies of Yogyakarta Province which were chosen by proportional area sampling method. Data was analyzed descriptively and using the chi square test to understand factors which could be influenced self medication behavior. Most of the patients choose to do the self medication (63.6%) rather than directly went to the physician (36.4%). There were 3 predictors of self medication behavior in our study, which were occupation, income and type of disease with the RR were; 0.823 (95% CI:0.701-0.965), 1.433 (95% CI: 1.173-1.751) and 1.027 (95% CI: 1.059-1.376), respectively. The occupation, income and chronic disease could predict of self-medication behavior in elderly patients.

Keywords: *self medication, elderly, predictor*

INTRODUCTION

WHO stated that the number of geriatric in Indonesia in 2020 will reach 11.34%. This is the biggest number of geriatric in the world. The Province of Yogyakarta is including one of 11 provinces who have geriatric population more than 7% in Indonesia (Anonim, 2009).

The reduction of absorption, distribution, metabolisme, and excretion process can cause the disorder and the detention of the process in elderly can cause the disorder and the detention of physiological function (Prest, 2003). Healthy ageing must be followed by active ageing, continuing

participation in social, cultural, spiritual, economic and civic affairs. A well organized geriatric medicine service has a major role in healthy ageing (Pranarka, 2006). WHO stated that self medication is the process of selection and application of modern drug, herbal, or traditional medicine by individualism to treat the disease or the symptoms (WHO, 1998). WHO decided self medication as international health wisdom, due to the decrease of health cost, increase of patients' adherence and increase of medication outcome (You *et al.*, 2011). The factors that can influence the self medication are gender, age, education, status of work, salary, knowledge, and attitude about the self-medication.

The previous study conducted in Sleman showed that the most reason which can influence the rationalism of behavior of self-medication behavior is education (Kristina *et al.*, 2008). The previous study in Jakarta showed that the attention of the community to do self- medication in pharmacy was increase and the selection of medicine were serviced by assistant of pharmacist (95%) and pharmacist (5%) (Purwati *et al.*, 2004). The objective of this research is to understand the proportion of elderly patients who are interesting to do the self medication and to explore the factors that could influence the self medication behavior.

MATERIALS AND METHODS

This study was conducted by cross-sectional design. Data was taken prospectively during April - June 2012 in the pharmacies of Yogyakarta Province which were chosen by proportional are sampling method. The subjects were elderly (≥ 60 yo) who visited the pharmacy and bought the medicines for self-medication. The inclusion criteria were patients who agree to participate in this study and filled in the questionnaire.

Data was descriptively analyzed to understand patients' characteristics and self-medication pattern. The chi-square test was used to explore the predictors of self-medication behavior such as age, gender, income, occupation, distance from the house to the nearest health

center, health insurance, disease type, the information which gave by pharmacist, origin of current cost for treatment, facilities in pharmacy and satisfation on self-medication as variables.

RESULTS AND DISCUSSION

This study was aimed to understand the proporsion of self-medication practice in elderly patients in Yogyakarta Province area and to understand the predictive factors of self-medication. We involved 5 counties of Yogyakarta which were, Yogyakarta city, Sleman, Bantul, Kulonprogo and Gunungkidul. We involved 50 pharmacies and 544 elderly patients. As the beginning we conducted this study by proportional area sampling method. However not all of the owners or pharmacists of the pharmacies located on the definitely area were agree to participate in this study.

We recruited 544 geriatric patients who did the self-medication during 3 months. Table I shows the patients' characteristics. Most of the patients who interesting to participate in this study were male subjects (68.8%), were still working (57.2%), had income/month less than 1.000.000 IDR (26.3%), had closed distance from house less than 1 km (42.8%), had no health insurance (69.9%), had chronic disease (73.3%) and got the cost of treatment from themselves (54.6%). The previous study in North Carolina stated that self-medication was becoming a choice in elderly people because it is more economical than visiting physician and following some procedures to get the medication (Amoako *et al.*, 2003).

Most of the patients prefer to do the self-medication rather than they directly went to the physician (63.6% vs 36.4%). The previous study showed that self-medication program was well accepted by the elderly patients and the nurse, since the patients got education about their disease and the medication (Webb *et al.*, 1990). Other result of previous study about the examine the use of OTC medicines by in-patients aged 65 years showed that the majority of patients knew why they were using

OTC medicines, but few patients had read the product information leaflet or were familiar with adverse effects of the constituents (Batty *et al.*, 1997). They also were interesting to get more informations about the medication.

Table II shows the self medication pattern in Province of Yogyakarta by elderly patients. Most of the patients did the self-medication for 1-2x/month (50.0%), they need the information during self-medication (91.7%), they need medication during self-medication (93.4%) and they felt satisfy during the medication (92.7%).

Our study shows that more elderly patients were interesting to do self medication than the study conducted by Batty *et al.* (1997), which stated that only 32% elderly patients were interesting to find OTC for their diseases.

Table I. Geriatric patients Characteristics

Characteristics	N	Percentage (%)
Gender		
Male	374	68.8
Female	170	31.3
Occupation		
Retired	167	30.7
Working	311	57.2
No answer	66	12.1
Income/month (IDR)		
< 1,000,000,00	143	26.3
≥ 1,000,000,00	113	20.8
No Answer	288	52.9
Distance from the house to the nearest health center		
< 1 km	233	42.8
≥1 km	213	39.2
No Answer	98	18.0
Health Insurance		
Available	154	28.3
Not available	380	69.9
Disease type		
Chronic	399	73.3
Non Chronic	135	24.8
No answer	10	1.8
Origin of Current Cost for treatment		
Him/Herself	297	54.6
Family/Insurance	241	44.3
No answer	6	1.1

Table II. Self Medication Pattern

Pattern	N	Percentages (%)
Self Medication frequency/month		
Never	2	0.4
Rare	22	4.1
Only during ill	1	0.2
1-2x	272	50.0
>2-5x	201	36.9
>6-8x	2	0.4
>8x	4	0.8
No answer	40	7.4
Need for information during self medication		
Yes	499	91.7
No	42	7.7
No answer	3	0.6
Need for medication during self medication		
Yes	508	93.4
No	33	6.1
No answer	3	0.6
Satisfaction for self medication service		
Yes	504	92.7
No	37	6.8
No answer	3	0.6

From the Table II, we can see that elderly patients in Yogyakarta who were interesting to do the self medication, were getting more information about the medication and they feel satisfy because of the services. One previous study presented that because of the different physiology condition in elderly, thus the elderly patients who did self medication should be closed monitoring and educated about their medication (Conn, 1992). The previous study held in community pharmacies showed that there were around 22% inappropriate medication used by elderly in OTS and prescription medications (Saab *et al*, 2006). Other study found that People aged 75 and over were more likely to be taking at least one drug than people aged 65–74 in England

and Wales (Chen *et al.*, 2001). Another study of community-dwelling older adults presented that prescription and nonprescription medications were commonly used together, with nearly 1 in 25 individuals potentially at risk for a major drug-drug interaction (Dima *et al.*, 2008).

In this current study, we presents that elderly patients felt satisfy due to the information services during the self medication. Ideally, by giving precise drug information, the patients will get more clearly informations, thus the inappropriate use of medication will be prevented. However, we did not observe the appropriate use of medication in this study regarding to the self medication practice.

Table III presents that around 20% elderly patients who have been retired, preferred to choose self-medication as choises (RR: 0.823; 95% CI:0.701-0.965).

Elderly patients with income less than 1.000.000 IDR showed 1.433 possibility to choose self medication when they got ill (95% CI: 1.173-1.751). The other possibility of choosing self medication was chronic disease (RR: 1.027; 95% CI: 1.059-1.376). The previous study in South Australia's elderly population suggest that OTC use was statistically significant association between income (Goh *et al.*, 2009). Other study in Jordan's community pharmacies describe that self-medication behavior varied significantly with a number of socio-economic factors (Yousef *et al.*, 2008).

According to the binary logistic analysis, we understand that among the occupation, income and disease type, there were no factor as the most predictor in this study. Our study was the first study which presents the predictive factors of self medication practice in elderly. From the perspective of pharmacists, by realizing that elderly patients are associated with chronic disease and mortality, the pharmacists should give precise and complete information and doing closed monitoring during the self medication practice. Because by giving information and doing the monitoring of medication, the

Table III. Predictive of Self Medication in Elderly

Predictors	Choices		AsympSig.	RR *for cohort*	95% CI	
	Self medication	Visiting Physician			Lower	Upper
Gender						
Male	239	137	0.977	0.998	0.870	1.145
Female	107	62				
Age (years old)						
>70	246	140	0.920	1.007	0.875	1.159
<= 70	100	58				
Occupation						
Retired	91	76	0.012*	0.823	0.701	0.965
Working	206	105				
Income/month (IDR)						
< 1,000,000,00	107	36	0.000*	1.433	1.173	1.751
≥ 1,000,000,00	59	54				
Distance from the house to the health center						
<1 km	156	77	0.193	1.097	0.954	1.262
>= 1 km	130	83				
Diseases type						
Chronic	98	37	0,010*	1.207	1.059	1.376
Non Chronic	210	159				
Medication						
Buy by themselves	191	106	0.692	1.026	0.902	1.168
Buy by others	151	90				
Origin of treatment cost						
Themselves	180	108	0.610	0.967	0.850	1.100
Others	159	87				
Pharmacy Facilities						
Complete	329	187	0.772	0.956	0.715	1.279
Uncomplete	16	8				
Drug Information Services						
Available	317	182	0.922	0.988	0.781	1.250
Not available	27	15				
Need for information						
Yes	324	184	0.714	1.052	0.793	1.396
No	20	13				
Patients' satisfaction to the services						
Yes	326	178	0.050	1.330	0.949	1.863
No	18	19				

*: significant p value

pharmacists can prevent the drug related problems which has more possibilities to be experienced by elderly patients due to the decrease of physiological function.

We have some limitations in our study such as; not all pharmacy in DIY Province and not all elderly patients were agree to participate. Thus the number of sample could not represent the number of population.

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